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February 15, 2011

Ex Parte

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: In the Matter of Implementation of Section 224 of the Act, WC Docket No. 07-245; A National Broadband Plan for our Future, GN Docket No. 09-51

On behalf of Ameren Services Company, CenterPoint Energy Houston Electric, LLC, and Virginia Electric and Power Company, together, The Pole Owners Working for Equitable Regulation ("POWER") Coalition, we submit this analysis, which shows that there is no basis in the record for the Commission's assertions that the expenses of pole attachments can amount to 20% to 40% of the cost of a fiber optic broadband deployment.

Commission Assertions

When Chairman Genachowski addressed the NARUC Annual Meeting in Atlanta, Georgia, on November 15, 2010, he said:

> Our Broadband team estimated that efforts to cut red tape can reduce broadband deployment costs approximately 40 percent. That's potentially billions of dollars that could be going toward laying fiber and building towers, and not sacrificed to the inefficiency of the process. We've already established a shot-clock for tower-siting for our wireless networks. And we're moving forward with efforts to ease access to rights of way and poles.

Most recently, in remarks to the Broadband Acceleration Conference convened by the Commission at its headquarters on February 9, 2011, the Chairman similarly stated, "The National Broadband Plan estimated that the expense of obtaining permits and leasing pole attachments and rights-of-way can amount to 20% of the cost of fiber optic deployment."

The Chairman did not cite any specific document of the Broadband Team, so it is not possible to analyze the validity of his assertion that 20% or perhaps 40% of broadband deployment costs are attributable to "red tape" associated with access to rights-of-way and poles.

Perhaps the Chairman had in mind Section 6.1 of The National Broadband Plan, which is the only publicly available document that addresses the issue. The National Broadband Plan, Section 6.1, states:

> The cost of deploying a broadband network depends significantly on the costs that service providers incur to access conduits, ducts, poles and rights-of-way on public and private lands. [fn 2] Collectively, the expense of obtaining permits and leasing pole attachments and rights-of-way can amount to 20% of the cost of fiber optic deployment. [fn 3]

Notably, however, Section 6.1 speaks of 20% of total costs, not 40%. On the other hand, it did cite sources in footnote three:

> We derive this estimate from several sources. OMNIBUS BROADBAND INITIATIVE, THE BROADBAND AVAILABILITY GAP. (forthcoming); See Letter from Thomas Jones, Counsel to FiberNet, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 09-51, WC Docket No. 07-245 (Sept. 16, 2009) (FiberNet Sept. 16, 2009 Ex Parte) at 20 (noting average cost for access to physical infrastructure of $4,611–$6,487 per mile); Comment Sought on Cost Estimates for Connecting Anchor Institutions to Fiber—NBP Public Notice #12, GN Docket Nos. 09-47, 09-51, 09-137, Public Notice, 24 FCC Rcd 12510 (2009) (NBP PN #12) App. A (Gates Foundation estimate of $10,500–$21,120 per mile for fiber optic deployment); see also Letter from Charles B. Stockdale, Fibertech, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 09-47, 09-51, 09-137 (Oct. 28, 2009) at 1–2 (estimating costs ranging from $3,000–$42,000 per mile).

As will be shown below, *nothing in these cited sources supports the statement that the expense of obtaining permits and leasing pole attachments and rights-of-way can amount to 20% of the cost of a fiber optic deployment.*

The Legal Framework

The Chairman has indicated that the Commission will announce rules on pole attachments at the Commission's April 7, 2011, meeting, rules ostensibly designed to "remov[e] barriers to broadband build-out and speed up processes to lower the cost of deployment."[1] Those rules are, in part, based upon and designed to address the Commission's purported "findings" on the relative costs of pole attachments in deploying a fiber optic network. The law, however, is clear that the Commission may only promulgate rules supported by substantial evidence. *Comcast Corp. v. FCC*, 579 F.3d 1 (D.C. Cir. 2009) (vacating cable subscriber limit where Commission failed to take into account substantial evidence of market competition); *see also* 5

[1] Chairman Genachowski's prepared remarks to the Broadband Acceleration Conference.

U.S.C. § 706 (2)(A)&(E); *Ass'n of Data Processing Serv. Orgs., Inc. v. Bd. of Governors of Fed. Reserve Sys.*, 745 F.2d 677, 683 (D.C.Cir.1984) ("in their application to the requirement of factual support the substantial evidence test and the arbitrary or capricious test are one and the same."); *accord Am. Radio Relay League, Inc. v. FCC,* 524 F.3d 227, 243 (D.C. Cir. 2008).

The Commission must ensure, therefore, that its rules are established by a "rational connection between the facts found and the choice made." *Motor Vehicle Mfrs. Ass'n v. State Farm Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (internal quotation marks omitted). Anything less constitutes arbitrary and capricious agency action within the meaning of 5 U.S.C. § 706. *See id.*

There is simply no record support for the purported finding that the expense of obtaining permits and leasing pole attachments and rights-of-way can amount to 20% or 40% of the cost of a fiber optic deployment. Any rule based upon or designed to address this invalid assertion has no rational basis and is not supported by substantial evidence. We urge the Commission and its Office of General Counsel not to take action based upon a finding that is so devoid of record support.

Analysis of Cited Sources

The Broadband Team's footnote three to Section 6 of the National Broadband Plan states that the 20% figure is an estimate, not an actual, documented number relating to a particular fiber deployment. Furthermore, the footnote states that the Broadband Team "derived" this estimate. In other words, no commenter in the proceeding stated that pole attachment expenses amounted to 20% of their deployment costs. Rather, the Broadband Team reached this conclusion on its own. A step-by-step examination of the sources upon which the Broadband Team relied, however, shows that the 20% figure has no support.

a. Technical Paper No. 1

The first document cited in the footnote is a technical paper prepared by the Omnibus Broadband Initiative. Technical Paper No. 1, "The Broadband Availability Gap," was released in April, 2010. As its title indicates, the Technical Paper discusses what it would take in terms of technologies and funding, *to extend broadband to those who do not have access to it today.*

In other words, the Technical Paper is considering hypothetical cases. Based on selected data, the Technical Paper is making estimates of future costs. It is not a summary of the industry's cost experience for any given sampling of construction projects.

The connection between the public Internet and an end-user's internal network can be broken into three stages: the *last mile*, the *second mile* and the *middle mile*. The *last mile* generally refers to the transport and transmission of data communications between the end user's

internal network and the first point where the broadband carrier aggregates all such data communications from several end users. Pole attachments are generally used for such last mile connections to the end user and so last mile costs are the proper focus for the discussion of what percentage of those costs are pole attachment costs.

The Technical Paper discusses several last mile technologies, their advantages, disadvantages and relative costs. In discussing the cost of deploying fiber to the premises, the Technical Paper (p. 96) says the costs would range between $10,000 and $150,000 per mile, depending on deployment methodology, terrain and labor factors. The costs associated with pole attachments are not specifically mentioned.

Middle mile transport generally means the transport and transmission of data communications from a cable headend, telephone central office or wireless switching station to an Internet point of presence. This can be a haul of 50 miles or more. It is not usually considered part of the *access network*, which is generally considered to be the last mile and the *second mile*. (The second mile refers to the transport and transmission of data communications from the first point of traffic aggregation to the point of connection with the middle mile transport.) The Technical Paper (pp. 117-8) states that the cost of new middle mile fiber construction in urban or suburban areas would range from $4 to $35 per foot – or $21,120 to $184,800 per mile – depending on whether the fiber is suspended from utility poles or buried, the number of fiber strands in the cable, right-of-way costs, terrain, soil density and other factors. Nonetheless, the largest cost component is installation costs. In this discussion of middle mile costs, the Technical Paper mentions pole attachments and right-of-way costs as factors in fiber deployment costs, but the Technical Paper does not quantify them or mention what percentage of the total cost these categories would constitute.

The Technical Paper mentions (p. 60-1) "pole transfers/make-ready costs" in the discussion of what it would take to extend *digital subscriber line* or "DSL" (a copper wire, telephone based, voice and data, last mile technology) to meet growing capacity demand, but it does not quantify these costs or assign a percentage value to them.

The Technical Paper mentions (p. 84) "telephone poles" in the discussion of the history of DSL technology, but there is no discussion of costs. At p. 88, the discussion moves to the initial capital expenditures associated with DSL deployment. Exhibit 4-AL lists labor costs associated with "Poles, Anchor and Guy," as a category of initial capital expenditures, but no values or percentages are given.

Finally, the Technical Paper (p. 121) discusses the lease vs. build considerations for middle mile transport. Again, the Technical Paper mentions pole attachments and rights-of-way as deployment costs (along with labor, plowing, trenching, and electronics that include transport

nodes, regenerators, aggregation electronics and the like). However, no cost values or percentages are given.

In short, nowhere in the Technical Paper, cited in footnote 3 of Section 6 of the National Broadband Plan, is there anything to support the statement that "the expense of obtaining permits and leasing pole attachments and rights-of-way can amount to 20% of the cost of fiber optic deployment."

b. FiberNet Letter

The next item cited in footnote 3 is "Letter from Thomas Jones, Counsel to FiberNet, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 09-51, WC Docket No. 07-245 (Sept. 16, 2009) (FiberNet Sept. 16, 2009 Ex Parte) at 20 (noting average cost for access to physical infrastructure of $4,611–$6,487 per mile)." This letter summarized an *ex parte* meeting that FiberNet had with members of the FCC's Broadband Team. The letter included PowerPoint slides and two spreadsheets.

One of the spreadsheets is entitled "Engineering Make Ready CPM." ("CPM" is an abbreviation for "cost per mile.") The spreadsheet apparently shows the engineering and make ready costs that were incurred by FiberNet in a project that involved fiber deployment to a school. (Presumably the engineering was related to make-ready work and not to other aspects of the fiber project.) Apparently there were two pole owners involved: an ILEC and a power utility (AEP). The total cost per mile (engineering + make ready) charged by AEP averaged $6,487; the total cost per mile charged by the ILEC averaged $4,611.

There is no statement by FiberNet of the total cost (on a per mile basis or otherwise) of this fiber project. Consequently there is no statement of the percentage of the total costs represented by engineering and make-ready costs and no factual support for the 20% figure.

c. Gates Foundation Estimate

The next item cited in footnote 3 is "Comment Sought on Cost Estimates for Connecting Anchor Institutions to Fiber—NBP Public Notice #12, GN Docket Nos. 09-47, 09-51, 09-137, Public Notice, 24 FCC Rcd 12510 (2009) (NBP PN #12) App. A (Gates Foundation estimate of $10,500–$21,120 per mile for fiber optic deployment)."

On October 5, 2009, the Bill & Melinda Gates Foundation filed in the National Broadband Plan docket a "cost model" entitled "Preliminary Cost Estimates on Connecting Anchor Institutions to Fiber." The model provided preliminary cost estimates for providing fiber optic connectivity to anchor community institutions, specifically public schools, public libraries, hospitals and community colleges. The FCC requested comments on this filing.

As the FCC noted, the Gates Foundation model estimated a cost of $2 to $4 per foot (which works out to $10,560 to $21,120 per mile) to deploy fiber to anchor institutions. This estimate was for a "low-end" fiber deployment, that is, "a deployment that would involve an aerial installation with 30% new poles." The Gates Foundation model also estimated a cost of $158,400 to $264,000 per mile for a "high-end" fiber deployment, that is, a deployment that would involve 40% aerial installation and 60% trenching. The Gates Foundation felt that a "low-end" fiber deployment would involve an above-ground installation of fiber on existing poles, even if it was necessary to replace 30% of those poles, presumably with taller poles. A high-end installation meant that only 40% of the existing poles could be used and the rest of the installation had to be underground. In other words, use of poles for aerial fiber installations is less expensive that underground trenching. Nowhere did the Gates Foundation model provide an estimate of pole attachment costs as a percentage of per mile costs for fiber deployment. Nowhere does the Gates Foundation paper support the Broadband Team's conclusion.

d. Fibertech Letter

Finally, footnote 3 cites "Letter from Charles B. Stockdale, Fibertech, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 09-47, 09-51, 09-137 (Oct. 28, 2009) at 1–2 (estimating costs ranging from $3,000–$42,000 per mile)."

On October 28, 2009, Fibertech Networks responded to the Gates Foundation estimates. Fibertech contended that the Gates Foundation estimates were too low and failed to account for additional make-ready costs that, in its experience, can range from $3,000 to $42,000 per mile. Fibertech attributed the bulk of these charges to pole replacement costs – costs that could be avoided if the utility allowed boxing and bracketing. Yet the Gates Foundation had, in fact, allowed for the cost of replacing up to 30% of existing poles in a "low-end" deployment.

Fibertech did not attempt to quantify the alleged costs of make-ready as a percentage of the per-mile cost of fiber deployment nor did it provide actual evidence to support its claimed costs for make-ready and pole replacements.

The Percentage Cannot Be Derived

It is simply impossible to determine how the Broadband Team concluded that 20% -- much less how the Chairman concluded that 40% -- of the cost of a fiber deployment was comprised of infrastructure access costs. For instance, the cost to link an anchor institution to the Internet is not the same as the cost to construct last mile facilities that connect multiple end-users

to a carrier's aggregation point. In fact, it is more accurate to say that the connection of anchor institutions would spur the deployment of last mile transport.[2]

Technical Paper No. 1 says the cost for last mile construction would range from $10,000 to $150,000 per mile. The Gates Foundation model says the low-end estimate for linking anchor institutions to the Internet would range from $10,560 to $21,120 per mile. The high-end estimate would be from $158,400 to $264,000 per mile. Fibertech's comments on the costs to connect anchor institutions seem not to be concerned with the distinction between connecting anchor institutions and building the last mile connections, and seem based on its own last mile experiences.

It is therefore not valid to lump together the Gates Foundation and Fibertech filings, pertaining to linking anchor institutions, in the same footnote with comments related to last mile costs.

The comments of FiberNet seem more to the point of last mile construction costs. However, taking the average costs for engineering and make-ready cited by FiberNet, $4,611 to $6,487, neither of these numbers is 20% of the costs estimated by the Technical Paper, namely $10,000 to $150,000 per mile. And even if FiberNet's figures somehow were the basis of the Broadband Team's conclusion, that would mean the Broadband Team had rested the entire basis, purpose and direction of a significant portion of a major proceeding, affecting tens of millions of utility poles, hundreds of millions of dollars and the operation and management of the nation's critical infrastructure, on vaguely connected and thinly supported assertions in one company's comments. Fact-based and data-driven decision making demands more.

* * *

Everyone agrees that pole attachment costs – engineering, make-ready, annual rent – are part of the cost of a fiber deployment. However, there is no discernable basis in the record for the National Broadband Plan's assertion that 20% (much less 40%) of the cost of a broadband fiber optic deployment is attributable to the costs, especially avoidable costs, associated with pole attachments.

[2] See, for example, the comments of the National Association of Telecommunications Officers and Advisors ("NATOA"), filed on October 28, 2009 in response to the Commission's request for comments on the Gates Foundation model. "NATOA believes the evidence shows anchor institution networks are the catalyst for the deployment of last mile broadband services, especially in unserved and underserved areas." (Comments at 4-5).

As pointed out in Technical Paper No. 1, the costs will vary according to the circumstances of the specific project. The Commission cannot, with the stroke of a pen, regulate away "billions of dollars" of costs.

Respectfully submitted,

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